

CLAIMS

What Is Claimed Is:

5                    1. A method of diagnosing endometrial  
irregularities by screening an endometrial sample or bodily  
fluid for the presence of the *ebaf* or *ebaf* splice variants  
that are differentially expressed.

10                   2. The method according to claim 1, wherein  
said screening step further includes screening by Northern  
blot analysis or Western blot analysis.

15                   3. The method according to claim 1, wherein  
said screening step further includes screening using  
immunohistochemical staining.

20                   4. A diagnostic tool for determining the  
presence of endometrial irregularities comprising:  
screening means for screening a sample for the  
presence of *ebaf*.

25                   5. The diagnostic tool according to claim 4,  
wherein said screening means is a Northern blot analysis.

6. The diagnostic tool according to claim 4,  
wherein said screening means is a Western blot analysis.

Sub F11  
7. The diagnostic tool according to claim 4,  
wherein said screening means is an immunohistochemical  
stain.

5 8. The diagnostic tool according to claim 4,  
wherein the ebaf protein is detected.

Sub F11  
9. The diagnostic tool according to claim 4,  
wherein the mRNA encoding ebaf is detected.

10 10. The diagnostic tool according to claim 4,  
wherein the endometrial irregularity is infertility.

11. The diagnostic tool according to claim 4,  
15 wherein the endometrial irregularity is endometriosis.

12. The diagnostic tool according to claim 4,  
wherein the endometrial irregularity is abnormal uterine  
bleeding.

20 13. A contraceptive composition comprising an  
effective amount of ebaf in a pharmaceutically acceptable  
carrier.

Sub F11  
25 14. A contraceptive device comprising an  
effective amount of ebaf in a pharmaceutically acceptable  
carrier.

15. A diagnostic kit for timing conception  
30 comprising screening means for screening a sample for the  
presence of ebaf.

Sub F11  
16. The diagnostic kit according to claim 15,

wherein the *ebaf* is a protein.

Sub  
py  
5 17. The diagnostic kit according to claim 17,  
wherein the *ebaf* is mRNA.

18. A method of treating endometrial  
irregularities by down-regulating the expression of *ebaf*.

Sub  
10 19. A method for determining endometrial  
receptivity level by determining the levels of *ebaf* by  
sampling tissue and bodily fluids.

15 20. A method for determining endometrial  
receptivity level by determining the levels of *ebaf* by  
immunoassay.

20 21. A method for determining endometrial  
receptivity level by determining the levels of *ebaf* by  
immunohistology.

22. A method for determining endometrial  
receptivity level by determining the levels of *ebaf* by PCR.

25 23. A method for determining endometrial  
receptivity level by determining the levels of *ebaf* by  
northern, western, or southern blot.

30 24. A method of diagnosis and prognosis of  
infertility by determining optimal treatment or treatment  
response by determining *ebaf* levels.

25. A method of diagnosis and prognosis of

endometriosis by determining optimal treatment or treatment response by determining ebaf levels.

5 26. A method of diagnosis and prognosis of menometrorrhagia by determining optimal treatment or treatment response by determining ebaf levels.

27. An antisera directed to ebaf.

10 28. A marker present in bodily fluids for determining endometrial receptivity comprising ebaf.

29. A marker in bodily fluids for infertility, comprising ebaf.

15 30. A method of modulating ebaf to regulate fertility by modulating the amount of ebaf produced.

20 31. A kit for the diagnosis, monitoring, and prognosis of patients comprising an immunohistology test for determining ebaf levels.

25 32. The kit according to claim 31, wherein said immunohistology test further includes antisera.

33. A kit for the diagnosis, monitoring, and prognosis of patients comprising an immunoassay for determining ebaf levels.

30 34. The kit according to claim 33, wherein said immunoassay further includes antisera and peptides as positive controls.

35. A kit for the diagnosis, monitoring, and prognosis of patients comprising a blotting test for determining ebaf levels.

36. The kit according to claim 35, wherein said blotting test further includes antisera and peptides.

37. A kit for the diagnosis, monitoring, and prognosis of patients comprising a PCR for determining ebaf levels.

38. The kit according to claim 37, wherein said PCR further includes at least one probe to ebaf.

39. A peptide comprising CASDGALVPRRLQHRP-amide (Seq Id No.:3).

40. A detection device for detecting the presence of at least one variant of ebaf.